CHAPTER 20

Gender Issues in the Assessment of PTSD

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DEFINING THE ISSUES OF GENDER

The construct of posttraumatic stress disorder (PTSD) was derived largely from the stress reactions of two specific populations: "shell shock" observed among male combat veterans and "rape trauma syndrome" observed among female sexual assault survivors (Saigh & Bremner, 1999). As a result, our understanding of PTSD has been shaped by implicit judgments and assumptions about trauma and gender from its very inception. Gender has a substantial impact on the type of trauma exposure experienced by an individual, the social relationships that mediate the impact of exposure, and the subsequent systems of meaning into which the traumatic event is encoded. Despite the substantive role that gender plays in the experience of trauma, creating a framework to understand gender issues presents a significant challenge. However, an awareness and consideration of gender issues can only enhance our understanding of this disorder and our ability to help traumatized individuals.

A necessary first step in exploring gender issues in the assessment of PTSD is to identify sex differences observed between men and women. The reader is cautioned that these descriptive data do not lead to conclusions regarding the essential nature of men and women or how each sex responds to traumatic stress. Sex differences between men and women must be interpreted in context. Thus, when we refer to sex differences, we mean comparisons that

are based only on the biological facts of male and female. When we refer to gender, we reference more broadly the social context and psychological experience of a male or female individual in a given culture. Gender issues can therefore be conceptualized as an interaction between biologically based sex differences and the individual's social context. This definition of gender differences accounts for intragender diversity, as well as differences between genders, by assuming that gender differences are context dependent. The focus of this chapter, therefore, is to examine components of psychological assessment and populations of patients in which the considerations of gender are relevant to an accurate understanding of an individual's trauma exposure and its sequelae.

In this chapter, we first provide a brief overview of gender differences in the prevalence of trauma exposure and PTSD. We then describe approaches to the assessment of PTSD that are sensitive to the gender issues of both men and women. These sections are followed by additional material addressing gender-sensitive assessment approaches to associated features of PTSD and cormorbid conditions. Suggestions regarding relevant domains of assessment, referral and collaboration among providers, and examples of effective psychometric instruments are provided. Conclusions include a summary of findings and suggestions for incorporating research on gender and PTSD into clinical assessments.

GENDER AND PREVALENCE OF TRAUMA AND PTSD

The essential paradox of gender and PTSD lies in the gender-based discrepancies in rates of trauma exposure and subsequent rates of PTSD. Research consistently finds that men are more likely to experience traumatic events, whereas women are more than twice as likely to develop PTSD. The attention drawn to this counterintuitive finding has led to much investigation of the different ways in which men and women respond to traumatic events. In this section, we briefly review the major studies that have established these prevalence estimates.

In a comprehensive analysis of this literature, Norris, Foster, and Weisshaar (2002) note that studies conducted in the United States and other countries, including Canada, Israel, New Zealand, Mexico, and China, consistently document elevated rates of trauma exposure among men when compared with women. Major studies in the United States indicate that approximately 61% of men and 51% of women report at least one lifetime traumatic event (Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995). The majority of individuals exposed to trauma experience multiple events. Among individuals exposed to trauma, women report fewer events than do men, with men reporting an average of 5.3 events and women reporting 4.3 events (Breslau et al., 1998). However, the types of trauma men and women experience are not equivalent. Women are more likely to report sexual assault in childhood or

adulthood, whereas men are more likely to report being shot or physically assaulted, or experiencing motor vehicle crashes and combat (Breslau et al., 1998; Norris, 1992). Although the cross-cultural research supporting gender differences in trauma exposure is compelling, we cannot yet rule out the possibility that the observed gender disparities in trauma exposure are confounded by the assessment process. Most epidemiological studies on trauma and PTSD have utilized interviews in which respondents are asked to indicate whether they have experienced a finite number of traumatic events, usually between 12 and 20. Despite findings that the use of trauma lists improves overall detection of trauma exposure by 10% (Franklin, Sheeran, & Zimmerman, 2002), the content validity and gender sensitivity of these trauma lists have not been systematically investigated and may result in the underreporting of traumatic events by women. For example, experiences such as a sudden miscarriage or stillbirth are not easily captured in these trauma lists, and references to "rape" or "sexual assault" are likely to miss early childhood experiences of sexual abuse by a close other, which are more common for women. Furthermore, the broad categorization of traumatic events—which equates experiences such as a single, brief, physical altercation with a stranger to those such as prolonged physical abuse by an intimate partner, all under the rubric of physical assault—may not be the most precise method for organizing exposure for the purpose of explaining gender differences in rates of PTSD.

General population studies consistently find that women are approximately twice as likely as males to meet criteria for PTSD at some point in their lives. Major studies that have used DSM-III-R criteria have documented prevalence rates of 10.4–11.3% in women and 5–6% in men (Breslau, Davis, Andreski, & Peterson, 1991; Kessler et al., 1995). The National Comorbidity Survey (NCS; Kessler et al., 1995) has documented that, among individuals exposed to trauma, 20.4% of women and 8.2% of men developed PTSD, suggesting that the gender difference associated with the conditional risk for PTSD is even stronger. The event with the highest conditional risk was rape for both men and women, although a higher proportion of women than men met criteria for PTSD for all nonrape trauma as well. On the basis of DSM-IV criteria, the conditional probability of lifetime PTSD is 13% in women and 6.2% in men (Breslau et al., 1998). These probabilities may be lower based on how the index event was identified. In the Breslau et al. (1998) study, estimates were made using a randomly selected event for those participants who endorsed multiple traumas. In the NCS, estimates were based on a self-identified "worst event," with resultant rates of 17.7% in women and 9.5% in men. PTSD is not only more frequent among women but also more chronic. PTSD becomes chronic, lasting several years, among about one-third of individuals ever diagnosed with the disorder (Kessler et al., 1995). Epidemiological data suggest that the median length of time from onset to remission is about 4 years for women, compared with only about 1 year for men (Breslau et al., 1998). Other research suggests that 22% of women will develop chronic PTSD, as compared with only 6% of men (Breslau & Davis, 1992).

In sum, women are twice as likely to suffer from PTSD than men. Women also experience more chronic forms of the disorder. Although earlier age at time of exposure and a high probability of sexual assault partially account for these gender differences, research has not yet been able to explain the disparities in these rates of PTSD. It is likely that characteristics of exposure (e.g., intensity, duration, physical injury) beyond the specific type of event and the age at which it occurs contribute to the observed gender differences in prevalence. Furthermore, factors beyond exposure, such as gender-related differences in cognitive processes (Tolin & Foa, 2002), or social roles and relationships, also play a role in explaining these gender differences.

ASSESSMENT METHODS AND APPROACHES

Cardinal Features of PTSD

Numerous psychometric measures and clinical interviews are used to assess the major symptom domains of PTSD. Gender issues are best addressed by selecting measures that are sensitive to the factors that distinguish the different characteristics of exposure and psychological sequelae experienced by men and women while retaining sufficient criterion-rated validity and generalizability to ensure adequate adherence to the PTSD construct and effective communication with other professionals. In this section, we review selected measures that are widely used with populations of men and women and comment on these issues of reliability and validity as they pertain to patient gender.

Trauma Exposure Measures

Three general factors affect the utility of trauma exposure measures to address gender issues: (1) the extent to which trauma exposure is queried in behaviorally specific language that is easily read and understood by respondents; (2) the extent to which specific characteristics of traumatic events are measured; and (3) the inclusiveness of events or experiences examined. The importance of wording trauma queries in behaviorally specific language became apparent in studies that found that women with sexual experiences that met the legal definition of rape did not label their experiences as such and, as a result, did not endorse questionnaire items such as "Have you ever been raped?" (Kilpatrick, Saunders, Amick-McMullan, & Best, 1989; Koss, 1985). Exposure measures that describe experiences in plain language are more sensitive to events that men and women experience. The Potential Stressful Events Interview (PSEI; Kilpatrick, Resnick, & Freedy, 1991) is an excellent example of an exposure measure that uses sensitive language. This structured interview was used in the DSM-IV field trials for PTSD and is appropriate for use with men and women. Queries for sexual assault include gender-specific items for both men and women, and the measure also obtains good detail for exposure characteristics, such as age at the time of the event, severity, and chronicity. The

main consideration for use of this measure is that the PSEI takes approximately 60–90 minutes to complete.

Characteristics such as age at the time of the event, severity, and chronicity are especially important with respect to gender, as these characteristics define the parameters of exposure that appear to partially explain several gender differences in PTSD prevalence and comorbid symptoms. The Trauma History Questionnaire (THQ; Green, 1996) is a 23-item, self-report measure of exposure derived from the PSEI that uses behaviorally specific wording to query age, frequency, and chronicity. Measures such as these are able to differentiate multiple incidents of physical assault from repeated and chronic intimate partner violence or physical abuse. The measure has demonstrated good reliability and validity in samples of both men and women, and its brevity measure makes it appropriate for both clinical and research purposes.

Gender-sensitive measures include content relevant to the stressors and traumatic experiences of men and women. The Life Stressor Checklist (Wolfe & Kimerling, 1997) is an example of a measure specifically tailored to the trauma exposure and stressful life experiences of women. The current version of this instrument is the revised version (LSC-R). The LSC-R is a 30-item instrument that includes unique assessments for abortion, loss of a child, and domestic violence and that also differentiates sexual assault from rape. The LSC-R includes stressors relevant to the lives of women that do not usually meet criterion A for PTSD but that may be relevant to understanding the context of trauma exposure, such as prolonged and unwanted separation from children, caregiving for someone ill or disabled, and severe financial strain. The LSC-R uses behaviorally specific language and assesses age at the time of the event for the first occurrence (if there were multiple occurrences of the same event), chronicity, subjective distress, and DSM-IV criteria for life threat, intense fear, helplessness, and horror. Information regarding the respondent's relationship to the perpetrator is embedded in the item wording when relevant. The LSC and the LSC-R have demonstrated good criterion-rated validity for PTSD in diverse populations of women and in several languages (Brown, Stout, & Mueller, 1999; Gavrilovic, Lecic-Tosevski, Knezevic, & Priebe, 2002; Kimerling, Calhoun, et al., 1999). The content of the LSC-R makes it particularly useful for low-income and ethnic-minority samples, and it has been used in national studies of traumatic stress in these populations.

The Traumatic Life Events Questionnaire—3 (TLEQ; Kubany, Haynes, et al., 2000), like the LSC-R, is a self-report measure that uses behaviorally specific terms to describe 21 potentially traumatic events, including several gender-specific experiences (e.g., miscarriages, abortions), as well as one open-ended question that assesses exposure to "other" life-threatening or highly disturbing events. It includes information on the frequency of occurrence, as well as the presence of fear, helplessness, or horror at the time of the trauma. In a small sample of battered women, the temporal stability and discriminative validity of the TLEQ-3 was good to excellent. The interrater reliability

was also good, and battered women scoring in the PTSD range on the Distressing Event Questionnaire (DEQ; see the next section) endorsed significantly more types of TLEQ events, higher total number of events, and more events that produced intense feelings of fear, helplessness, or horror than women whose DEQ scores did not suggest PTSD.

PTSD Measures

Many of the most widely used measures for PTSD are the result of research with combat trauma, in which participants are largely males, and of research with sexual assault trauma, in which participants are largely females. The measures that have emerged are quite similar and closely tied to DSM-IV criteria. As a result, the measures are commonly used with a variety of male and female PTSD populations. A gender-sensitive PTSD measure will allow for multiple traumatic events, as males tend to experience a greater number of events than women, and will limit the extent to which the respondent must tie symptoms to the event, as doing this is very difficult for individuals who were exposed to trauma in childhood (the majority of whom are women). Further confidence in the utility of measures for either gender is generated when psychometric properties of the measure are available for samples of both men and women.

The Clinician-Administered PTSD Scale (CAPS; Blake et al., 1995; Blake et al., 1990) is a good example of an interview that can be administered to individuals who have experienced multiple events and of one that does not require an individual to specifically link DSM-IV PTSD criteria C and D symptoms to a specific event. The CAPS also yields a dichotomous indicator of PTSD diagnostic status, as well as a continuous measure of PTSD severity. The CAPS was developed with male combat veterans but is widely used with samples of women. Studies of the instrument's reliability and validity with samples of women exclusively would make an important contribution to the literature; currently, most clinicians find that the CAPS has utility for female populations, and preliminary research suggests that the measure performs similarly to the PTSD Symptom Scale—Interview Version (PSS-I) in civilian populations (Foa & Tolin, 2000). The PSS-I differs from the CAPS in that it does not include follow-up prompts for symptom clarification and in that it combines frequency and intensity of symptoms into a single estimate of severity for each symptom. Furthermore, whereas the CAPS appears to have slightly higher specificity, the PSS-I shows a slightly higher sensitivity. Although the CAPS takes about 10 minutes longer to administer than the PSS-I, its inclusion of separate frequency and intensity ratings may make it more sensitive to the detection of change. We recommend excluding the section "associated and hypothesized features" when using the CAPS with samples of women because these features are more common to combat experience—for example, survivor guilt and disillusion with authority. We suggest that clinicians focus on the associated features of PTSD described later in this chapter.

The Composite International Diagnostic Interview (CIDI; McFarlane, 2001) and the Structured Clinical Interview for DSM-IV (SCID; First, Spitzer, Williams, & Gibbon, 2000) are also widely used clinical interviews in the assessment of PTSD DSM-IV criteria. The CIDI was developed by the World Health Organization and was validated using samples of men and women drawn from diverse cultures. It is available in a number of languages. Utility for diverse samples is a strength of the CIDI. The SCID is useful for its comparability with other studies because the SCID is so widely used as a diagnostic measure for Axis I disorders. Although both the CIDI and the SCID have established good psychometric properties in samples of men and samples of women, the instruments share several drawbacks. Neither interview is structured to account for multiple traumas, and both assess symptoms with respect to the "worst" event endorsed during a brief trauma probe. This method of assessment leads to the loss of valuable information and may result in underestimates of the rates of PTSD. The symptom queries of both instruments require respondents to link their symptoms to a specific traumatic event, which is difficult for survivors of early childhood trauma to do, especially when items ask the respondent to compare levels of functioning in specific domains before and after the event. When the SCID or the CIDI are used in assessments, we recommend the use of one of the trauma-exposure measures described previously to measure criterion A, as the trauma probes in these instruments are less sensitive.

Self-report formats are also useful in the assessment of PTSD in men and women. The Posttraumatic Stress Diagnostic Scale (PDS; Foa, Cashman, Jaycox, & Perry, 1997) assesses trauma exposure and DSM-IV criterion A and the 17 symptoms of criteria B, C, and D rated on a 4-point scale of frequency. The PDS also includes items that assess the impact of the trauma on social and occupational functioning, although respondents who were exposed to trauma in childhood may have difficulty determining the degree to which these experiences affect them as adults. A similar difficulty arises when respondents' premorbid level of social and occupational functioning was fairly low. The PDS is worded to refer to a single traumatic event. The measure yields a continuous measure of PTSD severity, as well as a dichotomous diagnostic score. The PDS was developed with both males and females and is appropriate for use with both genders, and the optimal cutoff score for a PTSD diagnosis does not appear to differ for men and women.

The Distressing Life Event Questionnaire (DEQ; Kubany, Leisen, Kaplan, & Kelly, 2000) matches the criteria of PTSD as specified in DSM-IV and assesses a few associated features such as guilt, anger, and unresolved grief. Like the PDS, it uses a 0–4 response format for frequency of symptoms, and symptoms are tied to a specific traumatic event. The DEQ was validated on both male Vietnam War veterans and a diverse group of abused women (i.e., women with childhood sexual abuse, women raped after the age of 12, battered women, and women with histories of prostitution). The DEQ has good psychometric properties, including excellent discriminative and convergent va-

lidity. The DEQ discriminated men and women with PTSD from those without PTSD. Importantly, the most accurate scoring algorithms for men and women were different. For example, the optimal cutoff scores for predicting PTSD for the abused women was 18 and for the male war veterans, 26. When the measure was scored according to DSM-IV criteria, a cutoff score of 2 was the optimal symptom scoring for men, whereas a symptom cutoff score of 1 resulted in the most accurate diagnoses for women. It is unclear whether this reflects a gender difference in response to trauma or whether the optimal scoring algorithm depends on the nature of the trauma. Analyses such as these should be considered with a variety of measures and populations and are important in determining the gender sensitivity of assessment instruments.

The PTSD Checklist (PCL; Blanchard, Jones-Alexander, Buckley, & Forneris, 1996; Weathers, Litz, Herman, Huska, & Keane, 1993) assesses the 17 items of the DSM-IV PTSD criteria B, C, and D. Unlike the PDS and DEQ, items on the PCL are rated on a 5-point scale for distress caused by the symptom in the past month, not frequency of the symptom. The PCL assesses PTSD with respect to a single event. The PCL was developed with research on both male and female veterans and is now widely used with various male and female trauma populations. Initial psychometric data indicate that the PCL has good internal consistency, test–retest reliability, and predictive validity for a PTSD diagnosis based on the SCID (Blanchard et al., 1996; Weathers et al., 1993). One advantage it has over the PDS is that the PCL is in the public domain and thus free to users.

The PCL can be scored using DSM-IV criteria or different cutoff scores. Scoring based on DSM-IV criteria requires symptom endorsement of 3 or greater on at least one reexperiencing symptom, three avoidance symptoms, and two arousal symptoms. Blanchard et al. (1996) argue against this approach and recommend using a total PCL score to increase diagnostic efficiency. The recommended cutoff score for detecting PTSD in male veterans is 50 (Weathers et al., 1993). Blanchard et al. (1996) found a slightly lower optimal cutoff score (44 vs. 50) in their sample of mostly female survivors of motor vehicle accidents. More recently, Walker, Newman, Dobie, Ciechanowski, and Katon (2002) reported an optimal cut score of 30 for a large sample of female HMO patients, and Dobie et al. (2002) found an optimal cutoff of 38 in a sample of female veterans (Dobie et al., 2002). Similar to the findings of Kubany, Leisen, et al. (2000), these results suggest that either gender differences or trauma type can influence cutoff scores. One disadvantage of the PDS, DEQ, and PCL is that they require a relatively high reading level. For example, the PCL has a Flesch grade level of 13.2 (Carlson, 2001).

The Screen for Posttraumatic Stress Symptoms (SPTSS) is a recent measure (Carlson, 2001) that offers several advantages over other self-report measures of PTSD. First, it does not require that symptoms be keyed to a single trauma. Second, it has a Flesch grade reading level of 7.5. Third, it utilizes a response format that obtains information on frequency of symptoms, although its response format (0–10 scale) lacks clear frequency anchors and as-

sesses symptoms for the previous 2 weeks rather than the previous month. Fourth, the SPTSS was developed using both male and female psychiatric inpatients and has good internal consistency, concurrent validity with other PTSD and distress measures, and diagnostic sensitivity. Its specificity is weaker, and information pertaining to other populations is still needed.

Associated Features

In addition to the cardinal features of reexperiencing, avoidance, and hyperarousal, symptoms of impaired affect regulation, dissociation, and marked difficulties with interpersonal relationships co-occur in a significant portion of trauma-exposed individuals (Herman, 1992). Symptom presentations that include these domains are often referred to as "complex PTSD" or the proposed category of DESNOS (disorders of extreme stress not otherwise specified). Individuals who present with these features of PTSD may benefit from skills-based treatment targeting awareness and regulation of feeling states, distress tolerance, and the ability to maintain relationships and utilize social support prior to exposure-based treatment components (Cloitre, Koenen, Cohen, & Han, 2002). Attention to these symptom domains is therefore an important part of assessment and treatment planning.

Comprehensive semistructured interviews for these associated features have been developed. The Structured Interview for Disorders of Extreme Stress (SIDES; Pelcovitz et al., 1997) has received the most attention and empirical support. It was used in DSM-IV field trials for PTSD and requires clinicians to rate the severity of affect dysregulation (i.e., difficulty with affect modulation, unmodulated anger, self-destructivenes, suicidal behavior, unmodulated sexual involvement), as well as dissociation and somatization. Although they are conceptually and descriptively different, DSM-IV borderline personality disorder and complex PTSD display significant symptom overlap (Cloitre, Koenen, Gratz, & Jakupcak, 2002). A comprehensive interview frequently used for the assessment of borderline personality disorder that captures these similarities is the Diagnostic Interview for Borderline Personality Disorders—Revised (Zanarini, Gunderson, Frankenburg, & Chauncey, 1989). It contains a section on the experience of chronic negative mood (e.g. anger, depression, anxiety), unusual cognitive experiences (e.g., odd thinking, quasi-psychotic experiences), impaired impulse patterns (e.g., self-mutilation, substance abuse). and interpersonal relations (e.g., stormy relationships, devaluation). In addition to these comprehensive interviews, self-report measures of specific associated features are available and are reviewed later.

Affect Regulation

Affect regulation can be defined as the ongoing process of an individual's emotion patterns in response to moment-by-moment contextual demands (Cole, Michel, & Teti, 1994). Individuals with dysregulated affect experience

low-threshold, high-intensity emotional reactions and slow return to baseline levels of arousal (Cloitre, Koenen, Cohen, & Han, 2002). These individuals often report that they get upset very easily, have trouble calming down, or feel overwhelmed by the experience of negative emotions.

Early experiences significantly influence the degree to which affect regulation processes are successfully developed (Cole et al., 1994). When exposure to trauma occurs in childhood, the process of learning to experience, identify, and talk about emotions, to observe how they function, and to develop strategies for modulating and utilizing emotions effectively is often disrupted (van der Kolk et al., 1996). This appears to be especially true for interpersonal violence and in cases in which the perpetrator is a family member or other intimate who would model or coach the child in emotional regulation strategies. As noted earlier, these forms of exposure are more common among women, and as a result symptoms of affective dysregulation may be seen more often among female patients. Gender differences may be magnified by the different ways in which men and women experience emotion. For example, women report more intense emotions and more negative and self-directed emotions, such as shame, sadness, and guilt (Kring & Gordon, 1998). Women are also more likely than men to utilize emotion-focused coping strategies in response to stress (Ptacek, Smith, & Dodge, 1994). It may be most effective for clinicians to use both female gender and childhood trauma as signals for the assessment of affect regulation symptoms.

Assessment of affect regulation should target emotional competence indices such as the ability to identify, articulate, and tolerate emotional states. The Toronto Alexithymia Scales (TAS; Taylor et al., 1988) and its revision (TAS-R; Bagby, Parker, & Taylor, 1994; Taylor, Bagby, & Parker, 1992) are reliable and well validated self-report measures that assess alexithymia. Alexithymia is often considered the hallmark of somatization, which is characterized by the inability to describe and differentiate the emotional valence of physiological states. Sifneos (1996) argued that these scales miss important features of alexithymia (e.g., paucity of fantasy life) and recommends a more comprehensive assessment that includes his Beth Israel Questionnaire (BIQ) and a nine-item rating scale to evaluate affective flattening. The General Expectancy for Negative Mood Regulation Scale (NMR; Cantanzaro & Mearns, 1990) is another brief (30–item) self-report measure that assesses the capacity to regulate negative mood. The NMR has good face validity, internal consistency, temporal stability, and discriminant validity from social desirability and locus of control. Interestingly, the NMR is not correlated with the experience of stressful life events, although it does add predictive validity to reports of depression following a stressful life event. Because problems with affect regulation are associated with maladaptive and often self-destructive attempts to manage overwhelming affect, especially anger (van der Kolk & Fisler, 1994), it is important for clinicians to assess for self-harm behaviors when assessing for affect regulation symptoms. The Self-Harm Inventory (Sansone, Wiederman, & Sansone, 1998) is a 22-item questionnaire that has been used

as a diagnostic screen for borderline personality disorder. It has good diagnostic predictive validity with a cutoff score of 5, and it provides useful clinical information about both the number of times a client has engaged in self-harm behaviors and the recency of his or her self-harm behavior.

Dissociation

Dissociation is conceptually linked to affective regulation: Unsuccessful attempts at regulating emotional states can result in the processes of monitoring and avoiding emotionally arousing information (Thompson, 1994). Dissociation, which involves the internal redirection of attention, is an example of such a strategy and is likely to be used in situations in which escape or avoidance of emotionally arousing stimuli is impossible. Dissociative symptoms occur on a continuum, which ranges from common behaviors such as "tuning out" or daydreaming to depersonalization or derealization. These more severe forms of dissociation appear to be categorically distinct from the dissociative tendencies that characterize the general population (Waller, Putnam, & Carlson, 1996). These symptoms are not heritable, suggesting that trauma exposure plays the most significant role in their etiology (Waller & Ross, 1997). These more severe dissociative symptoms are most common among individuals who experience trauma during childhood, especially trauma perpetrated by family members, as well as more chronic forms of trauma (Dancu, Riggs, Hearst-Ikeda, Shoyer, & Foa, 1996; Gershuny & Thayer, 1999). Similar to affect regulation symptoms, dissociative symptoms are more closely linked to forms of exposure that are more common among women and may thus appear to have a higher prevalence among women. Dissociation at the time of the trauma predicts the development of PTSD among individuals who have experienced a variety of forms of exposure (Ehlers, Mayou, & Bryant, 1998; Tichenor, Marmar, Weiss, Metzler, & Ronfeldt, 1996). Recent research suggests that the relationship between peritraumatic dissociation and the development of PTSD may be stronger among women than men (Fullerton et al., 2001).

The assessment of dissociation can be particularly challenging. In our experience, the colloquial meaning of dissociation for patients is often similar to momentary distraction, daydreaming, or other problems with sustained attention that significantly differ from clinical dissociation. We suggest a careful interview, operationally defining the symptoms queried, as well as using standardized measures of dissociation. The most widely used and extensively researched screening instrument is the Dissociative Experiences Scale, or DES (Carlson et al., 1993). This measure has been shown to have strong test–retest and internal reliability and also good validity (Bernstein & Putnam, 1986; Carlson, 1994; Frischholz, Braun, Sachs, & Hopkins, 1990). It is also efficient, with 28 self-reported items that can be completed in about 10 minutes. Screening measures such as the DES work well in conjunction with a structured interview that provides more detailed information regarding the nature

and extent of dissociative symptoms. The most widely used structured interview is the Structured Clinical Interview for DSM-IV Dissociative Disorders—Revised (SCID-D-R; Steinberg, Rounsville, & Cicchetti, 1990). The SCID-D-R is a highly refined measure that specifically yields DSM-IV dissociative diagnoses. In a recent review, the SCID-D-R was found have good-to-excellent reliability and validity, both in the United States and abroad (Steinberg, 2002).

Interpersonal Relationships

Individuals with PTSD may experience difficulties over a wide variety of domains, including impairment in interpersonal functioning in family and intimate relationships, problems accessing and receiving social support, and more generalized issues related to potential social stigma associated with the trauma. Careful assessment can yield important information regarding the symptoms experienced by the individual and the social resources available to cope with PTSD symptoms. Although pretrauma support is influential in determining subsequent social resources, factors such as gender and type of trauma can create additional obstacles for obtaining social support from the community and from intimate others.

For both men and women, the manifestations of PTSD often erode existing support systems and intimate relationships. Male veterans with PTSD report more problems with marital functioning and difficulties with intimacy, and they are more likely to separate or divorce than veterans without PTSD. All of these effects appear to stem from symptoms of emotional numbing (Riggs, Byrne, Weathers, & Litz, 1998). PTSD severity and hyperarousal symptoms in particular are also linked to the perpetration of intimate partner violence in these couples (Byrne & Riggs, 1996; Savarese, Suvak, King, & King, 2001). Female spouses of men with PTSD experience stress consistent with caregiver burden and decreased marital satisfaction (Beckham, Lytle, & Feldman, 1996; Calhoun, Beckham, & Bosworth, 2002). Children of male veterans with PTSD demonstrate poorer adjustment and more behavior problems than children of veterans without PTSD (Caselli & Motta, 1995).

Research with trauma-exposed women has not addressed PTSD to the same extent as it has with male veterans, and it has focused on exposure to child sexual abuse and adult sexual assault. Sexually abused or assaulted women are less likely to be married (Golding, Wilsnack, & Cooper, 2002) and more likely to be single mothers (Lipman, MacMillan, & Boyle, 2001). These women report less relationship satisfaction and more problems with trust and communication than nonabused women (DiLillo & Long, 1999), and they are more likely to be recipients of intimate partner violence (DiLillo, Giuffre, Tremblay, & Peterson, 2001). Similar to studies with males, partners of women sexually abused in childhood report poorer satisfaction with their relationships than do partners of nonabused women (Nelson & Wampler, 2000).

For both women and men, close interpersonal relationships are negatively affected by trauma exposure and PTSD. The research with males has primarily focused on combat veterans and has identified the role of emotional numbing as an obstacle to communication and partnership and of hyperarousal symptoms in the perpetration of relationship violence. The issues of trust, communication, and general difficulties in forming intimate relationships are consistent with numbing symptoms, as well as the interpersonal difficulties that are seen as the hallmark of prolonged trauma exposure during childhood (Cloitre, Scarvalone, & Difede, 1997).

Emotional validation of traumatic events and reactions may be more important components of intimate social support to women than to men. The positive effects of marital social support are more pronounced when partners of women accurately appraise the woman's stressor exposure (Ritter, Hobfoll, Lavin, Cameron, & Hulsizer, 2000). In contrast, women's accurate perceptions of their male partner's PTSD symptoms are not related to his satisfaction with spousal support (Taft, King, King, Leskin, & Riggs, 1999). These findings are consistent with findings that mutuality and relationship maintenance with close others may be more important to women than to men, the latter placing greater value on the ability to maintain independence (Josephs, Markus, & Tafarodi, 1992). Women's power relative to men's may also play a role in how symptoms of PTSD negatively affect close relationships. Whereas the hyperarousal cluster of symptoms for males is linked to risk of perpetration of intimate partner violence, research indicates that women's trauma-related anger and physical aggression are more often directed toward their children (DiLillo, Tremblay, & Peterson, 2000).

A promising tool for assessing interpersonal problems and distress associated with interpersonal problems is the Inventory of Interpersonal Problems (IIP; Horowitz, Rosenberg, Baer, Ureno, & Villasenor, 1988). The IIP is a 127-item self-report measure that was initially validated with a diverse psychiatric outpatient sample. It includes six subscales that assess difficulty with assertiveness, social interactions, intimacy, submissiveness, overcontrol, and excessive responsibility. The inventory has been shown to be sensitive to treatment effects, including treatment of child abuse–related PTSD (Cloitre, Koenen, Cohen, & Han, 2002). Although much of the attention paid by clinicians to social support focuses on intimate partners and the family, social resources from the survivor's community also play an important role in adjustment to trauma. Women's reports of general well-being (Acitelli & Antonucci, 1994) and marital satisfaction (Julien & Markman, 1991) are more strongly related to perceptions of social support in marriage than are men's reports. Thus the goal of increasing social support within an intimate relationship, as well as from the community, may be particularly important for women. These findings suggest that a comprehensive assessment of trauma and PTSD with women should include measures of social support. The Interpersonal Support Evaluation List (ISEL; Cohen & Hoberman, 1983) is a 48-item questionnaire

that assesses the perceived availability of potential social resources. It assesses the availability of four separate functions of social support: (1) tangible support (i.e., availability of material aid); (2) belonging support (i.e., availability of people to do things with); (3) appraisal support (i.e., availability of a confidant); and (4) self-esteem support (i.e., perceived availability of positive comparisons to others). Although extensive psychometric information has not been obtained on the ISEL, it contains important conceptual distinctions that are relevant to gender and trauma. It also appears to be sensitive to treatments that directly target interpersonal functioning in trauma survivors (Cloitre, Koenen, Cohen, & Han, 2002).

Clinicians interested in a global assessment of social functioning may want to use the self-report Social Adjustment Scale (SAS-SR; Weissman & Bothwell, 1976). This measure has been used extensively and measures overall social adjustment for a 2-week period across several role areas (i.e., household, employment, family, marital, parental, financial, school, social/leisure). In treatment outcome studies with both borderline personality disorder and child abuse–related PTSD, this measure has shown pre- and posttreatment effects (Cloitre, Koenen, Cohen, & Han, 2002; Linehan, Tutek, Heard, & Armstrong, 1994). The Quality of Life Questionnaire (QLQ; Evans & Cope, 1989) is another measure that assesses the quality of life across 15 domains, including interpersonal relationships (i.e., marital, parent–child, extended family, and extramarital). The normative sample on which the QLQ is based was balanced for gender, and preliminary reports suggest that males with PTSD score on average 3 standard deviations below the normative sample (Freuh, Turner, Beidel, & Cahill, 2001).

Comorbidity

The prevalence of many psychiatric disorders differs among men and women. These different prevalence rates have been variously attributed to social and biological differences or to gender biases on the part of health care providers and the systems in which they work. The extent to which these gender differences show similar patterns in their comorbidity with PTSD is not fully understood. In the NCS, 59% of men and 43.6% of women had three or more additional diagnoses (Kessler et al., 1995). For men, the three most common comorbid conditions were alcohol abuse/dependence (52%), major depressive disorder (48%), and conduct disorder (43.3%). For women, the three most common comorbid conditions were major depressive disorder (48.5%), simple or social phobia (28–29%), and alcohol abuse/dependence (28%). Comorbidity has a substantial impact on the severity and course of PTSD and is an important domain of assessment for both men and women. In the following sections, we review the evidence for gender differences in disorders most often comorbid with PTSD in men and women and suggest adjunct methods for assessment.

Major Depression

Major depressive disorder (MDD) is an important assessment consideration in both women and men, as it is a common comorbid diagnosis with PTSD for both genders. As already noted, epidemiological surveys conducted in the United States that have included men and women have found similar rates of comorbid depression among both men and women. In veteran samples, however, women appear to be more likely than men to be assigned a diagnosis of comorbid MDD both within the previous 6 months (men = 16% and women = 23%) and over the course of their lifetimes (men = 26% and women = 42%; Kulka et al., 1990). The basis for the discrepancy in rates of comorbid depression in veteran samples as compared with community samples is unclear, but it may be partially due to the National Vietnam Veterans Readjustment Study's focus on combat-related trauma, which could result in underestimation of both PTSD symptoms and depression related to sexual assault and intimate partner violence among women.

The similarity of the rates of comorbid depression among the community sample of men and women with PTSD is striking given women's risk for depression in the absence of PTSD. Major life events, including trauma exposure, play an etiological role in depression and partly explain women's greater risk for the disorder (Nolen-Hoeksema & Girgus, 1994). The high rates of comorbid depression in men and women seems to indicate that PTSD (or trauma exposure of sufficient magnitude to lead to PTSD) may create a vulnerability toward depression in men that suppresses the protective effect of male gender.

Several researchers have, in fact, hypothesized that the high rates of overlap between PTSD and depression indicate two distinct, but functionally related, syndromes. This hypothesis stems from consistent findings that, among both women and men, trauma exposure demonstrates a graded increase in the risk for both PTSD and depression, with more severe exposure resulting in a greater likelihood of both disorders (McQuaid, Pedrelli, McCahill, & Stein, 2001). A history of depression also functions as a gender-specific risk factor for PTSD following trauma exposure and partially explains women's elevated risk for PTSD (Breslau, Davis, Andreski, & Peterson, 1997; Resnick, Kilpatrick, Best, & Kramer, 1992). A history of depression, as well as current symptoms, is therefore an important component in the assessment of posttraumatic stress, especially with women.

The overlap between current symptoms of depression and PTSD presents a notable assessment challenge. Three of the nine DSM-IV symptoms of major depression (i.e, diminished interest in activities, difficulty sleeping, and difficulty concentrating) are strikingly similar to those of PTSD. Expert clinicians have proposed several distinguishing features between the two disorders despite the apparent symptom overlap. For example, in PTSD, diminished interest in activities is circumscribed to cues of past trauma exposure; in major de-

pression, inactivity and diminished interest are more generalized and are characterized by loss of energy and hopelessness (Keane, Taylor, & Penk, 1997). Sleep difficulties must be distinguished from trauma-relevant nightmares and hypervigilance that were not present before the traumatic exposure. Similarly, global difficulties in concentration must be distinguished from symptoms of dissociation and from intrusive trauma-relevant memories that were not present before traumatic exposure. Such discrimination may be more difficult among individuals with prolonged histories of childhood trauma, as the precise onset of traumatic stress symptoms may be difficult to pinpoint. Because such histories are more common among women (Breslau et al., 1997) and because the relationship between childhood maltreatment and adult psychopathology is stronger among women than men (MacMillan et al., 2001), gender may appear to be a confounding factor in discriminating PTSD from MDD.

Ruling out physical health disorders that could influence the presentation of depressive symptoms is another issue particularly relevant for assessment of depression among female PTSD patients (Orsillo, Raha, & Hammond, 2002). Thyroid disorders; adrenal, pituitary, and parathyroid disorders; seizure disorders; multiple sclerosis; and mitral valve prolapse can all produce symptoms that may be attributed to depression and/or anxiety. Many of these disorders, such as thyroid conditions and autoimmune conditions, are more common among women. The misdiagnosis of these physical disorders as psychiatric symptoms partially accounts for the overdiagnosis of depression in women (Klonoff, Landrine, & Lang, 1997).

Gender differences in the efficiency of detection and diagnosis of depression remain unclear, though research does suggest that practitioners may be more sensitive to depression in women and more specific when assessing depression among males. A recent study (Bertakis et al., 2001) found that women were 72% more likely than men to be identified as depressed by their primary care physicians, even after controlling for other variables such as severity of symptoms as reported by psychometric assessment, demographic variables (e.g., age, marital status), and utilization patterns.

A frequently used self-report measure of depression is the Beck Depression Inventory (BDI; Beck, Steer, & Garbin, 1988; Beck, Ward, Mendelson, Mock, & Erbaugh, 1961) and the revised version, the Beck Depression Inventory—II (BDI-II;Beck, Steer, & Brown, 1996). The BDI-II is a 21-item inventory that assesses many of the cardinal features of depression. Salokangas and colleagues (Salokangas, Vaahtera, Pacriev, Sohlman, & Lehtinen, 2002) recently proposed that gender differences observed using the BDI may not reflect true differences in degree of depression but rather gender bias in items. More specifically, they found that items such as loss of interest in sex and crying were reported more frequently by females than males. The authors argue that these items are psychologically, culturally, and/or biologically related to female gender and that their endorsement may be more a function of gender than depression. These findings also suggest that the extent to which gender

differences in depressive symptoms are detected may be influenced by the specific assessment tool used.

Although more research with comorbid PTSD and MDD is needed, the literature concerning depression can serve to guide clinicians' efforts. In general, research suggests that practitioners are more likely to diagnose and treat depression among women (Badger et al., 1999). Given a diagnosis, women are more likely to seek mental health services than are men, despite their relative disadvantage in access to health insurance (Kessler et al., 1999). As a result, symptoms of depression are more likely to be detected and treated among women, though care should be taken not to overdiagnose and overpathologize women patients. Because male patients, on the other hand, are less likely to be diagnosed with depression, men with PTSD should be carefully assessed for comorbid depression given their comparable rates for this disorder with women.

Substance Use Disorders

The prevalence of substance use disorders (SUDs) among individuals with PTSD is high. Current population estimates for lifetime comorbidity indicate that approximately 30–50% of men and 25–30% of women with lifetime PTSD have a co-occurring SUD. Among the men with PTSD, rates are 52% for alcohol disorders and 35% for drug disorders. Among the women with PTSD, rates are 28% for alcohol disorders and 27% for drug disorders (Kessler et al., 1995). These estimates suggest that when clinicians encounter an individual with PTSD, a cormorbid diagnosis of a drug or alcohol use disorder is more likely if that patient is male. Screening for drug and alcohol disorders should be a part of any trauma assessment, though the issue may be particularly important in settings in which large numbers of male patients are seen.

If these comorbidity rates among men and women are considered in the context of base rates for SUDs in the general population, however, additional gender issues important for assessment become apparent. SUDs in the general population are higher among men, making it more likely that a male with PTSD will be diagnosed with a comorbid SUD because he is male, and not because of an association with PTSD. Though the rates of comorbidity are lower among women with PTSD than among men, the associations between PTSD and SUDs are actually stronger for women, especially with respect to drug disorders (Stewart, Ouimette, & Brown, 2002). This finding suggests that the functional relationship between PTSD and SUDs may differ among men and women.

Research suggests that the etiology of PTSD–SUD comorbidity may differ among men and women, and that men and women with PTSD appear to differ in the situations in which they use substances. For example, women are more likely than men to develop SUDs subsequent to trauma exposure and PTSD (Cottler, Nishith, & Compton, 2001; Kessler et al., 1995), with ap-

proximately 65–84% of women meeting criteria for PTSD before they develop substance use disorders. These findings are consistent with a "self-medication" hypothesis for PTSD–SUD comorbidity among women, in which women develop SUDs in an effort to cope with trauma-related symptoms. In males, however, the temporal pattern is more consistent with an increased risk for trauma exposure that is linked to behaviors surrounding substance use, which then results in PTSD.

These hypotheses regarding gender differences in the functional relations between PTSD and SUDs are further supported by data regarding the situational specificity of substance use in men and women. Both men and women with PTSD use substances more frequently than SUD-diagnosed individuals without PTSD, and they tend do so in negatively reinforcing situations, for example in response to negative emotions, interpersonal conflict, or physical discomfort (Sharkansky, Brief, Peirce, Meehan, & Mannix, 1999; Stewart, Conrod, Samoluk, Pihl, & Dongier, 2000). Male substance abusers, independent of PTSD status, are more likely than women with PTSD–SUD comorbidity to engage in substance-using behavior in situations that involve positive emotions, either alone or with others. It has been hypothesized (Stewart, Ouimette, & Brown, 2002) that positive emotions occur more rarely among women with PTSD–SUD comorbidity, due to more intensive emotional numbing. As a result, these cues less often trigger substance use. Although much research remains to be done in this area, existing data and hypotheses regarding gender-related differences in the functional relationship between PTSD and SUD can serve to inform clinicians' case formulations.

Given the high rates of comorbidity in both men and women, clinicians may want to consider routinely screening patients for SUDs. A number of brief measures are commonly used to detect high-risk individuals in treatment settings. For alcohol use disorders, among the most widely used is the AUDIT (Alcohol Use Disorder Identification Test), developed by the World Health Organization in order to detect International Classification of Diseases (ICD-10) criteria hazardous or harmful drinking (Babor, de la Fuente, Saunders, & Grant, 1992). The AUDIT was developed using a multinational sample and has demonstrated utility for ethnic minority populations in the United States. Using the standard cutoff of 8, it is less sensitive for women patients (Bradley, Boyd-Wickizer, Powell, & Burman, 1998) but appears to be effective using cut scores lower than 8. Another widely used screen is the CAGE (Mayfield, McLeod, & Hall, 1974), thus named for the four items that make up the measure (i.e., Cutdown, Annoyed, Guilty, and Eye-opener). The CAGE uses a cutoff of 2 to indicate high risk for problem drinking. It should be noted that the CAGE has been criticized for demonstrating less sensitivity in female populations (Volk, Cantor, Steinbauer, & Cass, 1997). A modified version of the CAGE, called the TWEAK (Tolerance, Worried, Eye-Opener, Amnesia, Cutdown), is a five-item screen developed for use with women patients that utilizes a cutoff of 1 or 2 (Russell et al., 1991). When these lower cutpoints are used, the TWEAK and AUDIT

screens appear to be sensitive and effective in diverse samples of women patients (Bradley et al., 1998).

Sexual Functioning

Problems with sexual functioning are common among men and women exposed to both sexual and nonsexual trauma. Though patients may not list sexual concerns as a chief presenting problem at the onset of treatment, screening for sexual dysfunction or other intimacy issues is not only valuable for treatment planning and case formulation but also can serve to normalize problems in sexual functioning as being common sequelae of trauma exposure. Both men and women with PTSD report sexual dysfunction, as well as other alterations in sexual behavior, that appear to arise from trauma-related deficits in interpersonal functioning. Because a wide range of pharmacological agents, vascular conditions, and hormonal conditions can impair sexual functioning, both male and female patients should be referred to a physician as part of a comprehensive assessment of sexual function. It is important to remember that such exams may be retraumatizing for male and female patients who have survived sexual trauma. Clinicians should discuss the possibility with patients prior to referral and ensure good communication among the patient, physician, and therapist regarding the patient's needs and experiences.

Among male patients, sexual dysfunction has been observed in samples of combat veterans (Cosgrove et al., 2002) and civilians (Kotler et al., 2000) and in all phases of the sexual response cycle. Studies of treatment-seeking males with PTSD suggest that up to 80% of this population experiences clinically relevant sexual dysfunction, with the most common condition being male erectile dysfunction (Cosgrove et al., 2002; Letourneau, Schewe, & Frueh, 1997). When assessing sexual functioning in males, clinicians should be aware that many of the pharmacological treatments for PTSD, including certain serotonin reuptake inhibitors and beta-blockers, can impair male sexual functioning or exacerbate existing dysfunction. Studies of sexual dysfunction among women exposed to trauma have focused primarily on survivors of childhood sexual abuse, although research indicates that sexual dysfunction is common among female survivors of both sexual and nonsexual trauma (Letourneau, Resnick, Kilpatrick, & Saunders, 1996; Walker et al., 1999). Approximately 58% of these women report sexual dysfunction in all phases of the sexual response cycle.

Assessment can also address mechanistic processes: Fear of overwhelming affect may lead to hypervigilance for internal cues that signal emotional or physiological arousal (Barlow, 2002). Anxiety can alter cognitive and attentional processes during sexual activity, whereby the attentional shift serves to interfere with sexual responses and reception of sexually arousing stimuli (Rosen & Leiblum, 1995). For individuals exposed to sexual trauma, sexual dysfunction may be the result of cues to the traumatic memories, flashbacks, or dissociative experiences.

When assessing sexual functioning, clinicians should address interpersonal factors that affect intimacy and sexual negotiation, as well as screen for sexual dysfunction. These issues can be addressed via interview or psychometric assessment. The Golombok–Rust Inventory of Sexual Satisfaction (GRISS; Rust & Golombok, 1985) is a measure of sexual satisfaction. This instrument, composed of 28 items for women and 28 items for men, measures sexual functioning and relationship quality and can be completed in approximately 10 minutes. Domains assessed in women are anorgasmia, vaginismus, female avoidance, female nonsensuality, and female dissatisfaction. Domains assessed in men are impotence, premature ejaculation, male nonsensuality, male avoidance, and male dissatisfaction. Two domains, infrequency and noncommunication, are administered to both men and women. Frequency is assessed on a scale from 0 (*never*) to 4 (*always*), yielding a global sexual satisfaction, score as well as an individual profile of sexual functioning. Items pertaining to communication, as well as sexual functioning, make the GRISS useful for trauma populations, and it appears to be equally sensitive for both men and women. The GRISS is targeted toward heterosexual relationships and may not be appropriate for use with individuals with same-sex sexual partners.

Two other brief measures of sexual functioning are excellent examples of questionnaires that can be used with individuals with same-sex or opposite-sex sexual partners. The International Index of Erectile Function (IIEF; Rosen et al., 1997) is a brief 15-item measure for males that assesses domains of sexual activity, sexual intercourse, sexual stimulation, ejaculation and orgasm. It is sensitive to treatment-related changes in sexual functioning and is available in several languages. A brief five-item screen for sexual dysfunction has also been developed from this measure (Rosen, Cappelleri, Smith, Lipsky, & Pena, 1999). The Female Sexual Function Index (FSFI; Rosen et al., 2000) is a 19-item measure for women that assesses desire, arousal, lubrication, orgasm, satisfaction, and pain. The measure can discriminate between women diagnosed with DSM-IV sexual dsyfunctions and a comparison group for each of the five domains. Both the IIEF and the FSFI use clear, behaviorally specific language and take approximately 10 minutes to complete.

Medical Comorbidity

Both men and women with PTSD experience a greater degree of functional impairment from their illness and evidence a poorer course of disease for a variety of medical conditions. Although research has not yet delineated the full extent of medical cormorbidity with PTSD, ample evidence supports the importance of assessing health status among individuals exposed to traumatic stress. Readers are referred to several excellent reviews for an overview of this literature (Friedman & Schnurr, 1995; Kimerling, Clum, McQuery, & Schnurr, 2002; Koss, Koss, & Woodruff, 1991; Resnick, Acierno, & Kilpatrick, 1997; Schnurr & Jankowski, 1999). To date, we are not aware of pub-

lished data that have directly compared women and men for the extent or type of medical comorbidity attendant to a diagnosis of PTSD. However, several disorders appear to occur with significant frequency among men and women with PTSD. The studies cited here have controlled for potentially confounding factors in the relationship between PTSD and health status, such as age, smoking, body mass index (BMI), and alcohol use.

Cardiovascular Disorders

Studies of men suggest that PTSD may be associated with increased risks of cardiovascular disorders. PTSD symptoms are associated with a greater risk for several categories of physician-diagnosed medical problems common to older males: arterial disorders, gastrointestinal disorders, dermatological problems, and musculoskeletal disorders (Schnurr, Spiro, & Paris, 2000). These results are corroborated by laboratory studies in which chronic PTSD is associated with ECG abnormalities, atrioventricular defects, and infarctions (Boscarino & Chang, 1999) and with poorer performance on laboratory stress tests (Shalev, Bleich, & Ursano, 1990). At this time, most studies finding increased risk of cardiovascular disorders among individuals with PTSD have been conducted with male participants and veteran samples. However, researchers and clinicians should not mistake the lack of empirical data to mean that cardiovascular disorders are not also a risk for women with PTSD. Cardiovascular disease remains the leading cause of death among women in the United States (Centers for Disease Control and Prevention, 1999). Given the morbidity and mortality of cardiovascular disease and lack of gender data, our recommendation is that cardiovascular assessments be carried out in both men and women with PTSD.

Gastrointestinal Disorders

Increased rates of gastrointestinal disorders have been observed among male veterans with PTSD (Schnurr et al., 2000) and among women exposed to intimate partner violence (Campbell, 2002). Conversely, increased rates of trauma and PTSD have been observed among individuals with gastrointestinal disorders. A study of male and female patients diagnosed with irritable bowel syndrome (IBS) found that 36% met criteria for a PTSD diagnosis that preceded the onset of IBS (Irwin et al., 1996). Gender comparisons in such studies have found only minimal differences thus far: Women may be likely to suffer from IBS and dyspepsia, whereas men may be more likely to suffer more from heartburn (Talley, Fett, Zinsmeister, & Melton, 1994.).

Recent investigations have also indicated that assessment of hepatitis C and liver disease may be relevant for both men and women. It is estimated that approximately 46.2% of male veterans with PTSD test positive for hepatitis C (Muir et al., 1999). Liver disease is an important consideration given the high rates of comorbid alcohol use disorder in women and men

with PTSD. Women are more susceptible to alcohol-induced liver disease (Maddrey, 2000). We recommend assessment in both men and women for liver disease, viral hepatitis A, B, & C, irritable bowel syndrome, and gastroesophageal reflux disease (GERD)—the current nomenclature that includes heartburn.

Pain Disorders

The majority of research linking pain disorders to PTSD was done with male veterans. In this population, it has been estimated that 20–80% of male veterans with PTSD will experience a chronic musculoskeletal pain condition (Beckham et al., 1997; White & Faustman, 1989). Other studies have examined PTSD among individuals with PTSD conditions. In a study of men and women seeking treatment for fibromyalgia, 56% met criteria for PTSD (Sherman, Turk, & Okifuji, 2000). Trauma-exposed individuals also report more severe pain symptoms and pain in a greater number of body sites when compared with nonexposed individuals (Fillingim, Wilkinson, & Powell, 1999). Based on these findings and consistent with our clinical experience, fibromyalgia, musculoskeletal pain, low back pain, and migraine headaches seem to be seen more frequently in populations with PTSD and should be considered for assessment in these individuals. When available, referral to specialized chronic pain clinics in which multidisciplinary, multimodal approaches to pain management are taken should be considered.

Sexually Transmitted Diseases

Several studies have established a history of interpersonal violence among men and women with sexually transmitted diseases (STDs), with a focus on HIV infections (Kimerling, Armistead, & Forehand, 1999; Kimerling, Calhoun, et al., 1999; Zierler et al., 1991). One study of HIV-infected women estimated the lifetime rate of sexual assault at 43% (Zierler, Witbeck, & Mayer, 1996). In a large national survey of male veterans, men diagnosed with both PTSD and substance abuse were approximately 12 times more likely to be infected with HIV than veterans without either diagnosis (Hoff, Beam-Goulet, & Rosenheck, 1997). PTSD may affect course of disease, as well as risk for infection, as the disease progresses more rapidly among women diagnosed with PTSD than in women without PTSD, as evidenced by rate of CD4/CD8 cell decline and number of opportunistic infections (Kimerling, Armistead, & Forehand, 1999).

Researchers have proposed plausible behavioral mechanisms in which trauma exposure serves as risk factor for infection with STD, specifically, HIV infection. Violence can be linked to HIV and STDs through several pathways. Most directly, sexual assault can result in STD for both men and women if the perpetrator is infected (Gostin et al., 1994; Holmes, 1999; Kobernick, Seifert, & Sanders, 1985). Other studies have noted that intimate partner violence

may contribute to the likelihood of STDs and HIV. One study found that partners in violent relationships were less likely to use condoms and that abuse or threatened abuse resulted from initiating discussions about condom use (Wingood & DiClemente, 1997). Similarly, among a group of women demographically and geographically at high risk for HIV infection, 42% reported engaging in unwanted, unprotected sexual activity as a result of force or threat of force (Kalichman, Williams, Cherry, Belcher, & Nachimson, 1998). For men who have sex with men, childhood sexual abuse may be linked to unwanted and unprotected sexual activity and relationship violence (Paul, Catania, Pollack, & Stall, 2001).

These observations have led researchers to focus on shared causal pathways for interpersonal violence and HIV infections influenced by social inequalities related to gender, minority, ethnicity, economic status, and sexual orientation (Zierler & Krieger, 1997). The studies reviewed suggest that for women and for men who have sex with men, especially those with a history of interpersonal violence, assessment of STDs and HIV is an important consideration.

Reproductive and Gynecological Disorders

Studies have linked trauma exposure to adverse reproductive health among women. Exposure during childhood is associated with increased risk of gynecological disorders such as sexually transmitted diseases, excessive bleeding, vaginitis, cervical dysplasia, dysmenorrhea, and infertility (Fildes, Reed, Jones, Martin, & Barrett, 1992; Frye, 2001). Intimate partner violence during pregnancy is associated with low maternal weight gain, infections, anemia, preterm labor, and shorter intervals between pregnancies (Berenson, Wiemann, Wilkinson, Jones, & Anderson, 1994; Cokkinides, Coker, Sanderson, Addy, & Bethea, 1999; Parker, McFarlane, & Soeken, 1994). Recent data suggest that intimate partner violence during pregnancy may be one of the leading causes of morbidity and mortality among pregnant women (Fildes et al., 1992; Frye, 2001). Although there are yet no comprehesive data concerning the reproductive health of women with PTSD, these studies suggest that women with PTSD should be referred for gynecological care and that prenatal and obstetrical assessment is especially important for pregnant women with diagnoses of PTSD or histories of trauma. Individuals with history of sexual trauma may need psychological support and assistance in communicating with medical providers in order to overcome their resistance to seeking care and to obtain sensitive, appropriate care.

Because health care assessments can involve mammography, gastrointestinal procedures, and breast, pelvic, and rectal exams, individuals with history of sexual trauma may need psychological support to undergo these evaluations. They may need assistance communicating to medical practitioners the need for a third party to be present during breast, pelvic, and rectal exams and requesting that the medical provider ask permission before initiating touch. If

the medical intervention is clinically urgent, a therapist can communicate these issues directly to the medical practitioner after obtaining consent from the client. Whenever possible, however, patients should be encouraged to assume responsibility for informing medical practitioners of their concerns. Patients who are better able to interact with providers and to take charge of their physical health can feel an enhanced sense of well-being.

CONCLUSIONS AND FUTURE DIRECTIONS

As stated in the introduction, explicating the influence of gender on the vulnerability and recovery from traumatic stress is a complex process. Our review of the literature has identified the following considerations:

1. *Women are more than twice as likely as are men to be diagnosed with PTSD at some point in their lives.* This finding is not accounted for by the likelihood of trauma exposure and is only partially accounted for by the likelihood of traumatic events with high conditional risk for PTSD, such as sexual assault. However, trauma exposure may still play an important role in explaining a variety of gender differences in PTSD, particularly with respect to prevalence rates. For example, high-risk events such as sexual assault are associated with equally high rates of PTSD for both women and men. Exposure to sexual assault partially accounts for gender differences in PTSD because the larger culture and social context create environmental conditions in which exposure to this event is significantly overrepresented among women. Attention needs to be directed toward the qualitative characteristics of trauma exposure that, although they may occur more frequently among women, are likely risk factors for PTSD among both women and men. With respect to interpersonal violence (both sexual and physical), characteristics such as perpetration by an intimate partner or family member, chronic and repeated forms of exposure, exposure in ostensibly safe places such as in the home, and exposure during developmental years are factors that suggest an increased risk for PTSD and that are observed far more often in the traumatic experiences of women. Exposure factors such as these should not be overlooked in the assessment process with women or men.

2. *Women are more likely to experience more chronic and elaborated forms of PTSD than are men.* Characteristics of exposure that occur more frequently among women are conceptually linked to increased risk for more chronic forms of PTSD with associated features, such as impaired affect regulation, dissociation, and relationship problems. Until research suggests otherwise, we propose that characteristics of exposure, rather than patient gender, are the best markers for the importance of the assessment of these domains. However, this issue is complex. Sex differences are generally more pronounced in interpersonal interactions. These sex differences may be especially apparent in symptoms associated with and cued by early interpersonal trauma

that disrupts or confounds the development of effective social skills and self-regulatory systems necessary for relating to others. However, attention tends to focus on individual and dispositional foundations for such observed differences, rather than the social contextual and interactional basis for these differences—perhaps because these symptom clusters often include behaviors that are consistent with negative stereotypes of the female gender role. The pejorative connotations surrounding the diagnosis of borderline personality disorder are an example. Thus it sometimes appears that PTSD manifests differently among women because of some specific biological, genetic, or psychological characteristic of women. Although these domains are appropriate for assessment and research inquiry, environmental and social contextual factors should be accounted for as well.

3. *The social and environmental conditions under which women and men are exposed to and recover from traumatic stress are essential areas of assessment.* It is important to understand how gender differences in the frequency and chronicity of PTSD are related to the context in which the trauma occurred, as well as the recovery environment. In general, most childhood abuse appears to occur in a context of other adverse conditions in the home, such as interparental violence, substance abuse, or familial mental illness (Felitti et al., 1998). Rates of childhood abuse escalate in the wake of major natural disasters (Curtis, Miller, & Berry, 2000). Sexual assault and harassment in the military occurs significantly more frequently during wartime and combat (Wolfe et al., 1998), and disproportionately so for women in nontraditional occupations. Traumatic stress among women is also contextualized by a number of chronic stressors and environmental conditions. Women are far more likely than men to live in poverty, which appears to negatively affect women but not men with PTSD (Kimerling, 2004). Women experience traumatic stress in the context of caregiving, for both young children and elderly or disabled family members. Women's relative lack of social and material resources to cope with trauma doubtless makes the impact of exposure more pronounced. Furthermore, self-care needs compete with other priorities, such as securing resources to meet the basic needs of families and children. As noted by Moos (Moos, 2002), social systems maintain and reinforce characteristics of the individual that are congruent with the dominant aspects of the system. Therefore, when women's recovery from trauma occurs within a greater social system that grants them less influence and resources relative to men and within an immediate social system of poverty and the demands of multiple roles, the social context serves to maintain current symptoms, as well as the incidence of future stressors and chronic strains. Women's chronic, elaborated PTSD and comorbid conditions are consistent with these environmental influences.

4. *Effective assessment of PTSD utilizes assessment procedures and instruments that are sensitive to gender issues.* In addition to recognizing the social and environmental context of trauma exposure and PTSD, the selection and use of specific assessment *instruments* should be done with consideration

to the validity of the instrument for both women and men. For example, the selection of a trauma exposure measure should include an active questioning of content validity (i.e., Does it capture traumatic experiences common to women as well as men?) and the selection of a PTSD measure should include an awareness of the original validation sample (i.e., Were women included?) as well as any gender differences in clinically significant cutoff scores. Assessment of associated features and role functioning should be done with knowledge that the diagnostic validity of PTSD was originally established using single-event, adult-onset traumas, with pretrauma functioning able to be compared with posttrauma functioning. For survivors of multiple childhood traumas, such comparisons make little sense and do not begin to capture their affective and interpersonal disturbances. Much will be gained by the development and use of standardized assessment instruments that capture these problem areas.

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